

Focus on ewe management benefits whole flock

Participation in the Lifetime Wool Project has prompted one farming family at Cranbrook, Western Australia, to concentrate on ewe management as a key to increasing whole flock productivity.

Farm information



Farmers

Ian and Joan;
Michael and Melinda Walsh

Location

Cranbrook, Western Australia

Property size

1500ha

Enterprises

Medium wool Merino sheep flock; prime lamb production; cereal and lupin cropping

Annual rainfall

400mm

Soil type

Duplex soils

Soil pH

4.5–5.5 (calcium chloride)

by **Melissa Williams,**
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Cranbrook farmers Ian and Michael Walsh aim to boost sheep numbers, lambing percentages, wool productivity and profits by participating in the Lifetime Wool Project.

Central to the project is managing ewe condition score more precisely in the lead up to joining and during pregnancy. This can be used to increase stocking and weaning rates and optimise lifetime performance of the progeny.

Researchers from the Western Australian Department of Agriculture and the Victorian Department of Primary Industries have shown through the Lifetime Wool Project that targeted feeding and optimising stocking rates can lift the profitability of autumn- and spring-lambing flocks by as much as \$5–\$6 per ewe per year.

Manipulating stocking rates or using supplementary feeding are the main strategies being adopted by farmers applying Lifetime Wool Project principles to achieve consistent ewe condition scores.

Project researchers also reaffirmed previous knowledge that adequate ewe nutrition would set up excellent primary and secondary follicle development in lambs, with potential to lift wool fleece weights and reduce progeny wool fibre diameter. They noted these progeny effects at each shearing for the life of

the sheep. The Walsh family has the first lamb progeny on the ground since adopting the principles of the Lifetime Wool Project 12 months ago but these lambs are yet to be shorn, so it is too early to quantify the effects on wool quality or quantity.

Nonetheless, the family is confident that applying the principles of the Lifetime Wool Project will enable them to increase stocking rates from 11 dry sheep equivalent per winter-grazed hectare to 13DSE/wgha by 2006 and then take stocking rates progressively higher. They believe this can be achieved through higher lambing percentages and better pasture and grazing management that focuses on feeding ewes to maintain adequate condition scores during pregnancy, especially during summer.

Breeding objectives

The Walsh family runs a 2600-head, self-replacing Merino ewe flock, with 500 head of these sheep mated to British-breed rams for prime lamb production and the remainder mated to Merino rams.

Merino wether lambs are shorn and sold as 1.5-year-olds and ewe lambs become part of the flock as breeders or are culled.

Ian and Michael have identified a market opportunity for quality Merino ewes to be sold as crossbred mothers.

For this reason, their breeding objectives are to maintain a reasonable size frame in their Merino flock and reduce flock average fibre diameter from 21.5 microns (μm) to 20 μm .

At a glance

- The Walsh family plans to increase stocking rates from 11 dry sheep equivalents per winter-grazed hectare to 13DSE/wgha during 2006 and then to increase rates further.
- Achieving condition score targets can lift flock profitability by up to \$5 per ewe per year.
- Stocking rate manipulation or supplementary feeding is used to maintain ewe condition scores.
- Effective ewe nutrition will lift progeny fleece weights and reduce fibre diameter throughout their lifetime.



Ian, Melinda and Michael Walsh, Cranbrook, Western Australia, are confident applying Lifetime Wool Project principles will enable them to increase stocking rates on their farm.

At the same time, they aim to retain flock average greasy fleece weight at about five kilograms and start to lift wool production from current levels of about 38kg/wgha.

Some of Ian and Michael's older sheep are measuring 22–22.5 μm and the focus is to bring the grown sheep to 20–21 μm .

Through the Lifetime Wool Project, the Walsh family has established a standard reference bodyweight for ewes of 62kg and Ian and Michael do not want the flock to drop lower.

The flock was originally based on Collinsville bloodlines and Ian and Michael source rams from a non-commercial breeder.

Recently, Cranmore Park genetics have been infused to lower wool fibre diameter without compromising fleece or body weights.

Ian and Michael are confident they are on track to meeting their breeding objectives and believe they have been making steady progress for the past five years.

The family has also set a goal to increase lambing and stocking rates so there are more ewes to sell into the prime lamb market.

When they heard about the Lifetime Wool Project, they joined as satellite farmers for the final implementation phase.

Ian was keen to manage the ewes and by default the pastures to boost whole flock productivity. He hopes to learn from the many top-performing sheep producers participating in the project.

Ewe management

Before becoming involved in the Lifetime Wool Project, the Walsh family was ultrasound scanning ewes to cull those that were dry for two consecutive years.

During the past two years they have started culling all dry ewes to reach a 100 per cent annual lambing target. They plan to go higher once that target is reached.

The 2005 scanning showed there was potential for a 130% lambing but significant losses at or around birth brought the weaning percentage back to 89%.

Since joining the Lifetime Wool Project, the Walsh family has used ultrasound scanning to identify twin- and single-bearing ewes to fine-tune management for each group. Genstock carries out scanning for about 70 cents/ewe.

Before their involvement in the project, the Walsh family ran single- and twin-bearing ewes together and fed them based on 'gut feelings' and visual assessment. At that stage Ian did not think it was economical to feed the ewes to heavy weights during summer.

Now, they still allow the single-bearing ewes to run quite hard during summer because they continue to perform well. But they look after the twin-bearing ewes through better distribution of available feed and running them in more protected paddocks during lambing.

Rotational grazing

During 2004, Ian and Michael divided the twin-bearing ewes into two mobs of older and younger sheep and rotationally grazed them in small mobs on paddocks averaging 25ha during spring.

An early break to 2005 (March 31) meant early pasture growth rates were up to 90kg/ha/day, so the family did not need to use pasture growth curves to dictate sheep rotations during winter and spring.

Each spring, the paddocks due to be cropped the following year are grazed out.

As the cropping area is reduced during 2006, Ian plans to use Pastures from Space data to find the best target points at which to boost stocking rates for more efficient rotational grazing.

TABLE 1 Windrowed pasture quality

	Dry matter (%)	Acid detergent fibre (%)	Digestible dry matter (%)	Metabolisable energy (MJ/kg)	Crude protein (%)
Windrowed pasture	91.6	31.8	63.7	9.2	10.3
Standing pasture	91.2	34.4	59.7	8.5	7.3

Note: Independent Lab Services analysis. These samples were taken from the same paddock.

Source: Walsh family.

Condition scoring

Through the Lifetime Wool Project, the Walsh family has seen many advantages in objectively condition scoring the twin- and single-bearing ewes to ensure they are in optimum condition during pregnancy.

Ian said they learned to keep the ewes in peak condition during mating and then allow a measured decline after that until about one month from lambing.

The family now plans to undertake regular ewe condition scoring before mating, at the end of mating (five weeks later), at ultrasound scanning (about 90 days' gestation) and pre-lambing if a drench is needed.

But he said it was not practical to condition score objectively every mob of sheep on the property. Instead, the family regularly condition scores one mob of ewes as a reference mob and then immediately drives around to compare all other ewes visually against the reference mob.

Although not an exact method, Ian said it gave them a practical way of condition scoring all their ewes regularly.

He said condition scoring allowed ewes to hold a condition score of 3.3-3.5 during mating; gradually decline to 2.6-2.8 at the break; rise again before lambing as a result of green feed and supplement if needed; maintain during lactation and rise back to 3.2-3.5 before mating.

Ian believes twin-bearing ewes cannot become too fat during pregnancy.

In general, ewes are joined during February at a condition score of 3.2-3.5 and are held above score 3.3 at the end of mating, five weeks later.

Ian and Michael have learned, from experience, that allowing ewes to drop from condition score 3.5 to as low as 2.7 (from grazing wheat stubbles) during mating severely compromises lambing percentages.

Pasture management

To achieve high ewe condition scores during summer, the Walsh family uses saltbush, perennial pastures and forage crops on wet, low-lying areas. These provide an essential 'green pick' and prevent erosion on lighter country, making the farm's grazing system more sustainable. A recent development has been the use of windrowing of abundant spring pastures for deferred grazing during summer.

Last year was the second time the Walsh family windrowed pasture paddocks predominantly comprising clover-ryegrass. Windrowing is carried out at hay cutting.

In the first year, the windrows were cut during October and when tested during February were still green and of high quality (see Table 1). The quality and quantity of the windrowed pasture cut supplementary feeding costs substantially.

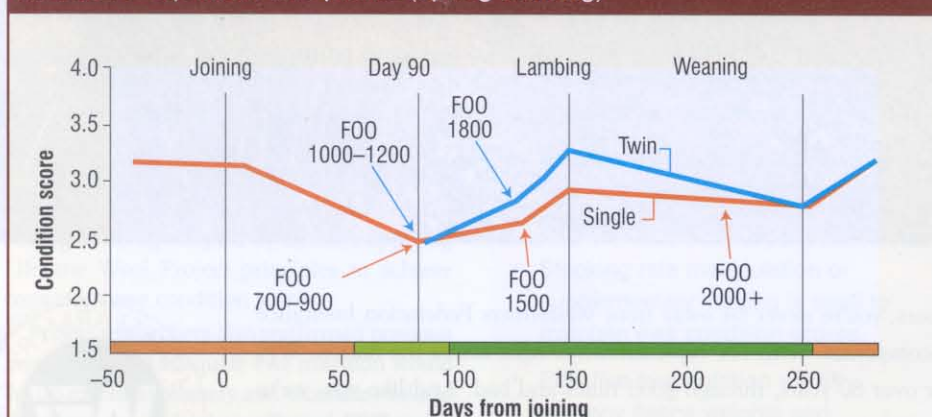
Ian said they cut 30ha of pasture into windrows in one paddock and put a mob of 150 sheep on it during early December. The sheep remained there without supplementary feeding until mid-February. Then, Ian and Michael shifted 350 ewes to the same paddock where they remained until the break without any extra feed. These ewes held their condition score at 3.2.

Following a very wet winter during 2005, Ian and Michael have windrowed most of their failed crops for use as summer ewe feed. Also during summer and into autumn they use crop stubble paddocks and 'safe haven' paddocks with saltbush.

Using feed-on-offer

Before the Lifetime Wool Project, they supplementary-fed oats and lupin to allow pastures to grow quickly after the seasonal break. The Walsh property falls outside the Pastures from Space system, for assessment of feed-on-offer and so, through Lifetime Wool Project, they have become increasingly proficient at measuring feed-on-offer.

FIGURE 1 Optimum ewe profile (spring lambing)



An example condition score profile for autumn joining, used by the Walsh family. These condition score targets will vary with different environments and sheep production systems.

Source: Walsh family.

A new feed-on-offer photographic gallery being developed by the Lifetime Wool Project researchers is helping farmers assess feed-on-offer. Ewes are placed onto pasture paddocks when they reach a feed-on-offer level of 700–900kg of dry matter per hectare at the seasonal break.

As the season progresses, pasture paddocks are grazed to about two tonnes/ha — the level at which researchers have found sheep production plateaus. Pastures are mainly clover–ryegrass based. Ian said the family had used a one-year-in one-year-out cropping system in the past but found this thinned the pastures and restricted carrying capacity.

He said they had cut back on cropping to increase pasture production and stocking rates from 11DSE/wgha to 13DSE/wgha during the next 12 months. Stocking rates will be pushed higher when grasses recover from intensive cropping.

Each year Ian and Michael apply 90kg/ha of superphosphate or equivalent to their pastures and every second year cropping paddocks receive a fertiliser regime of the usual superphosphate plus potash, copper, zinc and nitrogen.

Supplementary feeding

Before joining the project, Ian and Michael fed a small amount of lupin to their grown sheep and lupin and oats to younger sheep



Western Australian Department of Agriculture's Ian Rose explained condition scoring to farmers at a field day on the Walsh property, Cranbrook, WA.

during summer. Sheep are grazed on crop stubbles that contain a significant amount of grain and saltbush and summer forage crops that provide a 'green pick'. Since joining the project, the pasture windrowing method has maintained the feed-on-offer of spring pastures during summer and there is no need for other supplementary feeding.


Results expected soon

As the Walsh family has only been involved in the Lifetime Wool Project for the past 12 months, data is not yet available for the effects of more precise ewe management on ewe or progeny wool clips or production per hectare.

To date, they have learned that it is vital to keep the ewes well fed at the end of pregnancy to keep lamb wool fibre diameter low and fleece weights higher.

Costs have not changed and although they expect costs will go up, this should be more than offset by higher productivity and profits.

Ian and Michael plan to undertake more in-depth gross margin analysis and benchmarking through the project and participation in the Sheep's Back programme. Ian said the main challenge to increasing stocking rates is the risk of erosion from more intensive grazing during summer. But he was confident more targeted management and the addition of perennials and summer forage crops would help stabilise the soil.

Acknowledgement: The Lifetime Wool Project is supported by Australian Wool Innovation. For more information on the project, contact national co-ordinator Andrew Thompson on andrew.thompson@dpi.vic.gov.au or phone (03) 5573 0949. 

Further reading

For more information on the Lifetime Wool Project see *Farming Ahead* No. 153, page 61 and *Farming Ahead* No. 167, page 58.

For more information on Pastures from Space see *Farming Ahead* No. 158, page 53; *Farming Ahead* No. 162, page 60; *Farming Ahead* No. 163, page 58.